

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) In a computer graphics system, a method for applying texture mapping in per-pixel operations, the method comprising:

receiving a plurality of parameters that are used to define a pixel value at a pixel in a primitive;

selecting parameters from the plurality of parameters to generate selected parameters and unselected parameters where the unselected parameters are the plurality of parameters that are not selected;

substituting a texture value from a texture map in place of a pixel value produced from at least one selected parameter used in an algorithm that uses the selected parameters[[;]]

~~determining a texture value for each of the selected parameter by accessing a set of textures, the texture value for each selected parameter varying over the primitive; and~~

determining the pixel value by using the unselected parameters and the texture values over the primitive, wherein the set of unselected parameters are not texture values and the texture values are associated with the selected parameters; and

storing the generated pixel value in a frame buffer.

2. (Previously Presented) The method as recited in claim 1, further comprising: displaying the pixel according to the determined pixel value on a display device.

3. (Original) The method as recited in claim 1, wherein the plurality of parameters includes per-primitive parameters, which are defined over the entire primitive.

4. (Original) The method as recited in claim 1, wherein the primitive is a polygon.

5. (Original) The method as recited in claim 1, wherein the plurality of parameters includes both scalar and vector parameters.

6. (Original) The method as recited in claim 3, wherein the plurality of parameters includes one or more of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

7. (Original) The method as recited in claim 1, wherein the operation of determining the texture value further comprises the operations of:

receiving texture coordinates for accessing the set of textures; and
accessing the textures in response to the texture coordinates to generate the texture values.

8. (Previously presented) The method as recited in claim 7, wherein the accessed texture includes a plurality of texture elements, the method further comprising the operation of:

filtering the accessed texture elements of the texture map onto the selected pixel to generate the texture value associated with the pixel.

9. (Currently amended) The method as recited in claim 1, wherein a light value is generated for the pixel value by evaluating a lighting equation that is defined in terms of the plurality of parameters the substituted texture value from the texture map.

10. (Currently amended) A device for generating per-pixel values of pixels in a primitive by using texture parameters, the pixel values of the pixels in the primitive being defined by a plurality of parameters, where a pixel value is not such a parameter, the device comprising:

a texture memory for storing a set of texture maps;
a texture unit for receiving texture coordinates for accessing a set of selected texture maps in the texture memory, the set of selected texture maps being associated with a set of selected parameters, each selected parameter corresponding to a selected parameter in each pixel in the primitive, wherein the selected parameters is are selected from among the plurality of parameters that partially define a pixel value in the primitive, each selected

parameter corresponding to a selected parameter in each pixel in the primitive, the texture unit generating a texture value associated with the pixel from each of the selected texture maps, and wherein ~~an at least one~~ other parameter in the plurality of parameters ~~is are~~ not selected and the ~~at least one other~~ parameter that ~~is are~~ not selected from the plurality of parameters ~~defines define~~ a set of unselected parameters; and

a rendering unit for generating the pixel value in response to the generated texture values ~~of the selected parameters~~ and to the unselected parameters;

and a frame buffer in communication with said rendering unit, said frame buffer accepting said generated pixel value for storage.

11. (Original) The device as recited in claim 10, wherein the primitive is a polygon.

12. (Original) The device as recited in claim 10, wherein one or more of the selected parameters are selected from a parameter group consisting of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

13. (Original) The device as recited in claim 10, wherein the plurality of parameters includes both scalar and vector parameters.

14. (Original) The device as recited in claim 10, wherein the pixel value is a light value that is generated by evaluating a lighting equation using the plurality of parameters.

15. (Currently amended) A computer graphics system for generating per-pixel values for pixels in a primitive by using texture parameters, the pixel values being defined by a plurality of parameters, the system comprising:

- a bus;
- a processor coupled to the bus;
- a main memory coupled to the bus;
- a storage unit coupled to the bus; and

a graphics subsystem coupled to receive a plurality of parameters defining the pixel values for the pixels in the primitive, the graphics subsystem including:

means [[of]] for selecting parameters from the plurality of parameters to generate selected parameters and unselected parameters where the unselected parameters are the plurality of parameters that are not selected;

means for substituting a texture value from a texture map in place of a value produced from at least one selected parameter used in an algorithm that uses the selected parameter to determine a pixel value[[;]]

means for determining a texture value for each of the selected parameters by accessing a set of textures, the texture value for each selected parameter varying over the primitive; and

means for determining the pixel value by using the unselected parameters and the texture values over the primitive, wherein the set of unselected parameters are not texture values and the texture values are associated with the selected parameters

and a frame buffer in communication with said rendering unit, said frame buffer accepting said generated pixel value for storage.

16. (Original) The system as recited in claim 15, wherein one or more of the selected parameters are selected from a parameter group consisting of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

17. (Original) The system as recited in claim 15, wherein the plurality of parameters includes both vector and scalar parameters.

18. (Currently amended) The system as recited in claim 15, wherein the pixel value is a light value that is generated by evaluating a lighting equation using the substituted texture value from the texture map.

19. (Original) The system as recited in claim 15, wherein the primitive is a polygon.

DOCKET NO.: MSFT-1167/191769.01
Application No.: 09/265,493
Office Action Dated: January 7, 2008

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37 CFR § 1.116

20. (Original) The system as recited in claim 15, wherein the means for determining a texture value filters the accessed set of textures to generate the texture values.